

Safety Data Sheet: tert-Butyldimethylsilyl Chloride

1. Identification

Product	tert-Butyldimethylsilyl Chloride; CAS 18162-48-6; EC 242-042-4
Use	Professional, controlled protecting-reagent and organosilicon synthesis.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for tert-Butyldimethylsilyl Chloride. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Flammable solid Category 1; skin corrosion Category 1A; serious eye damage Category 1; chronic aquatic hazard Category 2.
Signal word / symbols	Danger; GHS02, GHS05, GHS09
Hazard statements	H228: flammable solid. H314: causes severe skin burns and eye damage. H411: toxic to aquatic life with long lasting effects.
Prevention	Use adequate ventilation; avoid inhaling dust. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	tert-Butyldimethylsilyl chloride, CAS 18162-48-6, EC 242-042-4. Selected solid substance references up to 100%; supply purity ≥99.0% does not establish the full impurity profile.
Supply grade	GC purity ≥99.0%
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to dust. Obtain immediate medical assistance. Do not use direct mouth-to-mouth resuscitation; assisted breathing requires trained personnel and suitable equipment.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Obtain urgent treatment for chemical burns. Obtain immediate medical assistance.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Obtain urgent medical care. Obtain immediate medical assistance.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain emergency medical attention. Obtain immediate medical assistance.
Effects / treatment	Corrosive contact causes severe burns and eye injury. Moisture reaction and airborne dust can produce hazardous exposure; obtain immediate medical assistance after exposure. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use dry chemical, dry sand, carbon dioxide or alcohol-resistant foam. Do not apply water to burning or spilled material; firefighters require self-contained breathing apparatus and full protection.
Hazards	Hydrolysis can release hydrogen chloride. Fire may generate carbon oxides, hydrogen chloride, chlorine-containing fumes and silicon oxides.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personal precautions	Isolate the area and use trained responders with suitable chemical and respiratory protection. Remove ignition sources without creating sparks.
Environmental precautions	Prevent entry to drains, soil and water.
Cleanup	Collect carefully with compatible dry tools into suitable sealed containers. Avoid dust and exclude water; do not wash spilled material into drains.

7. Handling and Storage

Handling	Use dry dispensing with effective local extraction and ignition-controlled equipment. Avoid dust and all contact; wear chemical-resistant gloves, protective clothing, goggles and face protection. Keep water out of the material and establish emergency washing facilities nearby.
Storage	Keep tightly sealed in dry compatible containers in a cool, ventilated area. Exclude water and moist air; segregate from bases, alcohols, amines, strong oxidizers and incompatible metals. Protect from heat and ignition sources.

8. Exposure Controls / Personal Protection

Exposure limits	No substance-specific occupational exposure limit is identified in the selected reference. Apply local workplace dust controls.
Engineering controls	Use local extraction where dust can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	White crystals
Formula / molecular weight	C ₆ H ₁₅ ClSi / 150.72 g/mol
Melting range, reference	85–91°C
Water interaction	Hydrolyses
Flash point, reference	22°C, closed cup
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Water and moist air; bases, alcohols, amines, strong oxidizing agents and incompatible metals.
Decomposition	Hydrolysis can release hydrogen chloride. Fire may generate carbon oxides, hydrogen chloride, chlorine-containing fumes and silicon oxides.

11. Toxicological Information

Exposure effects	Corrosive contact causes severe burns and eye injury. Moisture reaction and airborne dust can produce hazardous exposure; obtain immediate medical assistance after exposure.
Reference classification	Flammable solid Category 1; skin corrosion Category 1A; serious eye damage Category 1; chronic aquatic hazard Category 2.
Data limits	Reference oral rat LD ₅₀ >2,000 mg/kg. Severe corrosion and eye damage are established; no supplied-batch reproductive, sensitization or chronic endpoint is assigned.

12. Ecological Information

Environmental effects	Toxic to aquatic life with long lasting effects. Prevent environmental release; no supplied-batch persistence, mobility or bioaccumulation endpoint is established.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Class 4.1 — Flammable solid; subsidiary risk 8
UN number	UN 2925
Shipping name	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S. (tert-butyldimethylsilyl chloride)
Class / packing group	Selected priority substance reference, ADR/RID / IMDG / IATA: Class 4.1, subsidiary risk 8, packing group II. An alternative substance classification is UN 2921, Class 8, subsidiary risk 4.1, packing group I; actual shipment must follow the classification assigned to the ordered material.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	tert-Butyldimethylsilyl Chloride; CAS 18162-48-6; EC 242-042-4
HS reference	293190; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish authorization for a finished formulation.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H228: flammable solid. H314: causes severe skin burns and eye damage. H411: toxic to aquatic life with long lasting effects.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.1; prepared 2026-10-07. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.1 | Revision date: 2026-10-07